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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TRINH, TAN H

ART UNIT PAPER NUMBER

2684

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/836,829

Applicant(s)

TOYA, KEN-ICHI

Examiner

TAN TRINH

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 and 5 is/are allowed.
- 6) ☒ Claim(s) 2,3 and 6-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 4-5 are allowed.

Reasons for allowance

2. The following is an examiner's statement of reasons for allowance:

Regarding independent claims 4-5, the claims have been written in independent forms including all of the limitations of the base claims and intervening claims, therefore, claims 4 and 5 are allowable with the same reasons set forth in the previous Office action (paper # 3 mailed on 11-15-2003).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 3 and 13-16 are rejected under 35 U.S.C. 102(a) as being anticipated by Karabins (U.S. Patent No. 5,937,332).

Regarding claims 3 and 13, Karabins teaches the land mobile-satellite communication system (see fig. 2) comprising: at least one communication satellite station (see fig. 2, satellite 110); a plurality of portable communication terminals for communicating with each other through a communication link to be formed to include at least one communication satellite

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station (see fig. 2, plurality of portable communication terminals 120 and col. 5, lines 6-21) ; and a plurality of mobile repeater stations (see col. 5, line 22 the satellite telecommunication repeaters 200) mounted on mobiles located on the earth for repeating a communication in the communication link formed between the portable communication terminals and including at least one communication satellite station (see fig. 2 and fig. 5A-B, and col. 5, lines 22-34); Karabins inherently teaches wherein the mobile repeater stations include a means for communicating with the communication satellite stations by using a carrier wave of higher frequency than a frequency of a carrier wave to be used for communicating with the portable communication terminals (see fig. 2, col. 4, line 61-col. 5, line 34, since the link to satellite communication stations is higher frequency for communication with (satellite frequency band) then the link to portable communication terminals (cellular phone frequency band)); and Karabins teaches the mobile repeater stations are dedicated for use in association with any given ones of the portable communication terminals (see fig. 6, col. 5, lines 16-21, since the repeaters 200 repeated the signals by one or more radiotelephones 200).

Regarding claim 14, Karabins teaches wherein the mobiles are vehicle (see fig. 5B).

Regarding claim 15, Karabins teaches wherein power supplies of the vehicle provide power to the mobile repeater station (see col. 8, lines 29-36).

Regarding claim 16, Karabins teaches wherein the mobile repeater stations include high frequency plane antenna (see col. 7, lines 1-55).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karabins (U.S. Patent No. 5,937,332) in view of Wesel (U.S. Pub. No. 20040157554).

Regarding claim 2, Karabins inherently teaches the plurality of the communication satellite stations respectively mounted on a plurality of low earth communication satellites. But Karabins fails to teach each of satellite station including a means for communicating with other the stations through inter-satellite links.

However, Wesel teaches each of satellite station including a means for communicating with other the stations through inter-satellite links (see fig. 1, satellite 14 is communicating with satellite 12 and satellite 14 is communicating with satellite 15...).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Karabins system by the providing of the teaching of Wesel on the inter-satellite links thereto in order to provide user with combined with other system to enable increase capacity of the coverage area (see page 2, section [0028]).

Regarding claim 6, Karabins teaches wherein the portable communication terminals include a means for communicating with the mobile repeater stations as well as with conventional land mobile communication systems (see fig. 2, portable communication terminals 120, col. 5, lines 10-18).

Regarding claim 7, Karabins teaches wherein the mobile repeater stations include a means for converting at least one of frequency and modulation for communication (see col. 6, lines 11-44), by changing software to allow communication with conventional land mobile communication systems (see col. 6, lines 39-44); Since Karabins teaches the mobile repeater stations detects or monitor the up/down links signal and performs some function as a result of characteristic of the signal, so that is inherency teaching on the by changing software to allow communication with conventional land mobile communication systems.

Regarding claims 8 and 9, the communication satellite stations include a means for transmitting information about their own position; and the mobile repeater stations include means for aiming an antenna beam thereof at the communication satellites according to received information about the position of the communication satellites and a detected position of the mobile repeater stations. This is a well known in the art, the mobile repeater stations or any satellite communication systems to communication with the satellite stations must aiming an antenna beam at the satellites station.

Regarding claim 10, Wesel teaches the communication satellite stations include a means for functioning as a Peering points or Proxies to provide accessibility to conventional land mobile telephone systems or Internet (see page 4, section [0042-0043]).

Regarding claim 11, Karabins teaches the data signal link from mobile repeater 220 forward to earth station 130, relayed by satellite station 110, the data received and retransmit (see fig. 2), that is obvious to the storing data received from the portable communication terminals and for functioning as servers.

Regarding claim 12, Karabins teaches wherein the mobile repeater stations include a means for responding to a request from the communication satellite stations and / or portable communication terminals and for functioning as providers (see col. 3, lines 10-51).

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karabins (U.S. Patent No. 5,937,332) in view of Lorbeck (U.S. Pub. No. 20030114135).

Regarding claim 17, Karabins teaches wherein communication between the portable communication terminal and the mobile repeater stations. But Karabins fails to show the portable communication terminal and the mobile repeater stations use S or near S frequency band ranging from 1-10 Ghz and communication between the low earth communication satellite station and the mobile repeater station use frequency Ku band.

However, Lorbeck shows the portable communication terminal and the mobile repeater stations use S or near S frequency band ranging from 1-10 Ghz (see fig. 2, sessions [0006] and [0034]) and communication between the low earth communication satellite station and the mobile repeater station use frequency Ku band (see figs. 1 and 2, session [0038], lines 7-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Karabins system and by the providing of the teaching of Lorbeck with the S and Ku band thereto in order to provide user with the repeater operated on the multiple band.

8. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karabins (U.S. Patent No. 5,937,332) in view of Wilson (U.S. Patent No. 6,141,533).

Regarding claims 18 and 19, Karabins teaches the repeater station for transferred data. But Karabins fails to show wherein the mobile repeater stations include the functions of cache, proxy and server for storing transfer data.

However, Wilson teaches wherein the mobile repeater stations include the functions of cache, proxy and server for storing transfer data (see figs. 2-3, data base 303, col. 7, lines 12-28 and col. 8, lines 13-24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Karabins system by the providing of the teaching of Wilson on the data base thereto in order to provide user with data base to act as a proxy for server and

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transfer data for the subscriber unit with in the coverage are easier (see Wilson col. 7, lines 20-25 and lines 58-67).

Regarding claim 20, Karabins teaches the provided of the signal quality (see col. 2, lines 28-33). But Karabins fails to teach wherein the mobile repeater stations are selectively associated for use base on proximity and signal quality.

However, Wilson teaches wherein the mobile repeater stations are selectively associated for use base on proximity and signal quality (see Wilson col. 10, lines 60-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Karabins system by the providing of the teaching of Wilson on quality of service thereto in order to provide user with signal quality on the stronger signal might be selected (see Wilson col. 10, lines 62-63).

Response to Arguments

9. Applicant's arguments with respect to claims 2-3, 6-17 are have been considered but are moot in view of the new ground(s) of rejection.

Response to Arguments

Regarding claim 3, Applicant argues the reference of Karabins fails to disclose a plurality of mobile repeater stations, a communication link between the portable communications terminal via the repeater without transmission to the satellite, and mobile repeater stations are not dedicated for use in associated with any given ones of the portable communication terminals.

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However, the examiner does not agree. Since the reference of Karabins teaches disclose a plurality of mobile repeater stations (see plurality of mobile repeater stations 200 on col. 5, lines 15-18 and lines 25-30 of repeaters 200).

A communication link between the portable communications terminal via the repeater is without transmission to the satellite. (That is not in claim. In addition see in fig. 2, the communication link between the portable communications terminal 120 and other via the repeater 200 without transmission to the satellite).

And the mobile repeater stations are not dedicated for use in associated with any given ones of the portable communication terminals. (See the plurality of repeaters 200 on col. 5, lines 15-18 and lines 25-30 of repeaters 200 and the plurality of radiotelephones 120 on col. 5, lines 17-18).

Therefore, the reference of Karabins is teaching the above of the limitation.

Conclusion

10. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for Technology Center 2600 only)

*Hand-delivered responses should be brought to Crystal Park II,
2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).*

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan Trinh whose telephone number is (703) 305-5622. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung, can be reached at (703) 308-7745.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tan H. Trinh 
Art Unit 2684
Jan. 31, 2005


NICK CORSARO
PRIMARY EXAMINER